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ABSTRACT

This report describes the efforts being made through the Educational Research and Development Program to implement the new state strategy of reducing restrictions on local and institutional officials and at the same time holding them accountable for the effectiveness of their programs. Chapter II considers the development of techniques for monitoring educational results, costs, and resource utilization, including the writing of both general and specific behavioral objectives, the preparation of a detailed cost accounting system, a system for assessing resource utilization, and a method of coordinating and managing the development of assessment techniques. Chapter III deals with the identification of alternative educational policies and practices, which include individualized instruction, flexible staff utilization, teacher training, and licensing practices built on specific competencies; the expansion of school resources to serve the community; the extension of the school year to provide for more efficient use of school facilities; and the development of alternative ways to use educational capital. Chapter IV synthesizes the information presented in the report and establishes specific targets for the future. Four appendixes include the legal authorization for the program, notes on the 1969-7[illegible] program, an annotated bibliography, and a list of R&D projects now underway in Florida. (MBM)

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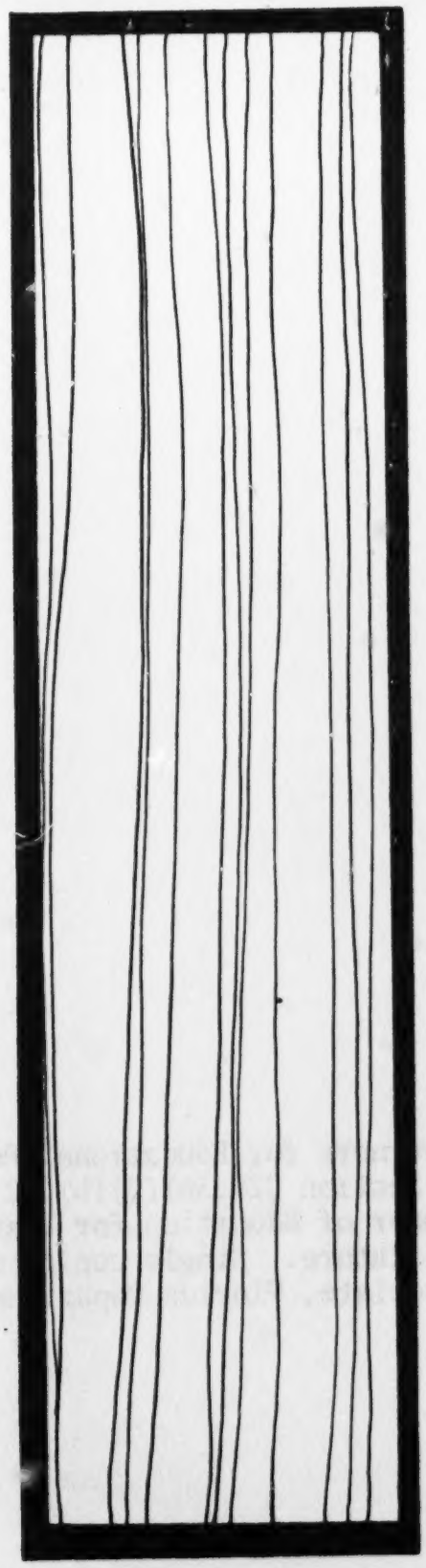
THE FLORIDA EDUCATIONAL RESEARCH AND DEVELOPMENT PROGRAM



2nd ANNUAL REPORT

DEPARTMENT OF EDUCATION
TALLAHASSEE • FLORIDA
FLOYD T. CHRISTIAN • COMMISSIONER

SP005287

February 23/1971

This report was prepared by the Board of Governors for Educational Research and Development pursuant to the requirements of Section 229.561(2)(b)(12, Florida Statutes. It was submitted to the Commissioner of Education for transmittal to the State Board of Education and the Legislature. Single copies may be obtained from Mrs. Nancy Benda, Research Associate, Florida Department of Education, Tallahassee, Florida 32304.

FLOYD T. CHRISTIAN
COMMISSIONER

STATE OF FLORIDA
DEPARTMENT OF EDUCATION

TALLAHASSEE 32304

February 23, 1971

Dr. Leon M. Lessinger
Chairman, Board of Governors
Educational Research and Development
Georgia State University
33 Gilmer Street, S.E.
Atlanta, Georgia 30303

Dear Dr. Lessinger:

I have received and reviewed the Second Annual Report of the Florida Educational Research and Development Program which was submitted to me by the Board of Governors for Educational Research and Development. I am extremely pleased with the report and endorse its contents fully.

You have presented clearly the challenge which faces Florida education as we move to increase the effectiveness of our programs, while attempting to operate within tight budgets. The expectations of increased productivity, increased accountability, and continuing self-renewal which you describe in Chapter 4 are goals which I feel must become realities. For this reason, I am pledging the support of the Department of Education in meeting the targets which you specify on pages 18 and 19:

> Improved educational management techniques by the end of 1972.
>
> A restructure of teacher training by the end of 1974.
>
> Mastery of basic skills by every child enrolled in elementary school by the end of 1976.

The State of Florida is greatly indebted to the members of the Board of Governors for your work in behalf of our Educational Research and Development Program. Please accept this expression of gratitude for your services.

Sincerely,

Floyd T. Christian

FTC:dh

GEORGIA STATE UNIVERSITY
33 GILMER STREET, S. E. • ATLANTA, GEORGIA 30303

February 15, 1971

Honorable Floyd T. Christian
Commissioner of Education
State of Florida
Tallahassee, Florida 32304

Dear Commissioner Christian:

I am transmitting herewith the Second Annual Report of the Florida Educational Research and Development Program. This report was prepared in accordance with the requirements of Section 229.561(2)(b)12, Florida Statutes. It was compiled by members of the staff of the Department of Education who were assigned to assist the Board of Governors in this task.

Florida's Research and Development Program represents a pioneering effort. It brings a no-nonsense businesslike approach to educational improvement within the context of a responsive and humane concern for both the student and the taxpayer.

The Department of Education relies heavily on a carefully selected group of advisers from both outside and inside the State. The Board of Governors consists of persons with national expertise and experience in both research and development who have directed national programs of educational innovations with work done in schools, research laboratories, and industry. All presently work in classrooms, in supervising innovations, or in administrative capacities. Advice from within the State is provided by a well-chosen, representative group of Floridians, the Advisory Council. The Council presents recommendations regularly to the Board both in writing and in person.

The Board has emphasized assessment of the present situation in Florida Education to obtain feedback and guidance for future activities. There has been and continues to be careful planning. Deep commitments to honest and effective reporting on the achievements, needs, and possibilities for educational improvements in the State have been made. The Board believes in a broad spectrum of educational improvements with no particular biases. The members have demonstrated diverse and balanced interests.

The Board wishes to commend you and your staff for your efforts to make the Educational Research and Development Program a success. To our knowledge, this is the only program of its type in the country, and should certainly be a model for

other states. We are convinced that your R & D efforts will bring about far reaching changes in Florida's educational system. These changes should result in a more productive educational system: a system in which every pupil masters the skills required to be a productive member of society.

Sincerely,

Leon M Lessinger

Leon M. Lessinger
Chairman, Board of Governors for Educational
Research and Development

LML:dh

THE FLORIDA EDUCATIONAL RESEARCH AND DEVELOPMENT PROGRAM

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* Advisory Council members are appointed for a term of one year.

THE FLORIDA EDUCATIONAL RESEARCH AND DEVELOPMENT PROGRAM

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* The term of each member expires on June 30 of the year in parenthesis.

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CHAPTER I

A NEW STATE STRATEGY FOR IMPROVING EDUCATION

The people of Florida are vitally concerned about education. This concern is reflected by the Florida Legislature as it invests the citizens' taxes in education and as it passes laws regulating education. The State investment in education currently comprises approximately 75% of the general revenue funds appropriated by the Legislature--43% of all State revenue.

The State investment in Florida's public education programs has increased significantly in recent years. As a result, educational programs have improved in both scope and quality. Nevertheless, there is a feeling on the part of many that increases in the magnitude of the educational investment are not resulting in proportional increases in educational benefits. Stated differently, the expectations which the public holds for education--to help alleviate social problems as well as intellectual problems--apparently are not being met, even though the State is spending more money for education.

As a result, the Legislature and the executive branch of government are modifying the approach to supporting and regulating education. In the financing of education a fundamental change can be seen. Lesser proportions of State funds for the operation of school programs are being appropriated in narrow categories of expenditures--such as textbooks, teachers salaries, or transportation. Increases in support are coming in categories such as "other current expenses" or "educational improvement expenses". In the area of legislative regulation, the trend is away from detailed specification of personnel or program requirements and toward a system for making educators accountable for results which their programs achieve. New legislation requiring the assessment of vocational education and general education programs are examples. Taken together, these changes--along with paralled changes in the executive branch of government--represent a new strategy for improving Florida education. Simply stated, the new strategy is to provide greater flexibility to those who operate educational programs and, at the same time, make them accountable for the results.

Naturally, the effects of this new strategy have rippled through the education community. Teachers and other school officials welcome greater flexibility. Furthermore, they are willing to be accountable. However, they do not feel that present methods for assessing pupil growth or for assessing teacher performance are adequate accountability measures.

In order for the new State strategy for improving education to work, it will be necessary to devise techniques of implementation. It will be necessary to invent or discover adequate techniques for measuring the effectiveness of educational programs. It will also be necessary to discover or invent policies and procedures which could be considered as alternatives to present practices.

Another facet of the new State strategy is represented in a program of educational research and development. Funds for this program are appropriated separately from funds for operating instructional programs. These funds are now being used to develop techniques for assessing the results of educational programs, the costs of educational programs, and the utilization of educational resources. The funds are also being used to identify or develop alternative educational policies and practices. Hence, there is a program underway to develop improved techniques for educational accountability and to identify alternatives for making education more effective.

The Florida Educational Research and Development Program was created in 1969 by the Florida Legislature. A copy of the statute creating the program is included in Appendix A. The year 1969-70 was a planning year. A description of the activities during that year can be found in the First Annual Report of the Florida Educational Research and Development Program which was submitted to the State Board of Education and the Florida Legislature on February 23, 1970. These activities are summarized in Appendix B of the present report.

The remainder of the present report describes the efforts now underway through the Educational Research and Development Program to implement the new State strategy of reducing restrictions on local or institutional officials and at the same time holding them accountable for the effectiveness of their programs. As implied above, the R & D Program has two major components: (1) the development of techniques for monitoring educational results, costs, and resource utilization, and (2) the identification of alternative educational policies and practices. Chapters II and III take these two major components and develop them in more detail. Appendix D contains descriptions of individual projects which are now underway. Chapter IV synthesizes the information presented throughout the report and established specific goals or targets for the future.

CHAPTER II

DEVELOPING TECHNIQUES FOR ASSESSING EDUCATIONAL RESULTS, COSTS, AND RESOURCE UTILIZATION

The Florida Educational Research and Development Program was created to sponsor ". . . studies or projects which seek information on questions of critical concern to present and future educational needs of this State." There is no question of more critical concern than, "How effective are educational programs in Florida?" This question is a vital one to professional educators, to educational policy makers and to the general public. Persons concerned with educational programs at the state level, the district level, the school level, and the classroom level regard the question as critical. Without information on the effectiveness of school programs, it is difficult to know where to start in trying to improve them.

There is much support for the predication that the public is expecting educational programs to become more effective. Pupils who in the past have been written off as "unteachable" are now expected to learn to read and demonstrate considerable skill. Thus, it is necessary to design assessment programs which can be used at the classroom, the school, the district, and the state level and which will yield information for decision-makers who wish to improve the school programs.

While there is pressure to improve educational programs, there is also pressure on education at all levels to reduce costs--or at least not to increase costs. With prices going up and money becoming scarce, taxpayers appear reluctant to provide additional funds for education. This is particularly true when the benefits which can be expected from additional support are not apparent.

Is an Educational Program Yielding The Desired Results?

In assessing an educational progam, the most significant question must be, "Is the program yielding the desired results?" The desired results can be described in terms of knowledge to be acquired or skills and attitudes to be developed. A representative skill might be "the ability to read an editorial from a local newspaper and in one's own words communicate the ideas from that editorial to another person". The desired results of an educational program may also be described in terms of experiences which are considered beneficial in themselves. For example, it might be considered beneficial for all pupils to experiment with group singing before reaching the age of eight. Obviously, there are numerous results which educational programs are expected to produce. It is not possible to determine whether they are producing the desired results until the desired results are identified. The desired results (i.e., objectives) which are selected will be dependent upon the values of the society which the educational program serves.

It is possible to conduct research and development projects designed to facilitate the identification of desired results. As these results are identified, it is possible to develop techniques to determine the extent to which desired results have been achieved. A major portion of the 1970-71 R & D allocation is being invested in such projects.

When these projects are completed, it will be much less difficult for school board members, members of the State Board of Education, legislators, and the general public to describe the results which they expect from education. Likewise, it will be much less difficult for professional educators to describe the extent to which those results are being achieved. Furthermore, it will also be possible for educators to diagnose the areas of weakness and to specify the kind of learning which will be required in order to attain the desired results.

The procedure which has been adopted in current R & D projects for developing assessment techniques is as follows:

1. Each part of the curriculum is broken down into its fundamental areas of knowledge or skills. Each of those knowledge or skill areas is then divided into its logical sub-areas. In some cases, the sub-areas are sub-divided. Finally, specific objectives are identified for each of the sub-areas. These objectives represent, at least theoretically, the desired results of a curriculum. An attempt is made to include all objectives which might be used in any program within that part of the curriculum. Consequently, it is likely that no single program will include all of the objectives.

2. With the above set of objectives available, persons responsible for a specified educational program are asked to identify those objectives which are included in their program. In this case, the term "program" can represent a portion of a curriculum in a given classroom; it can also represent a portion of the curriculum in a school, in a school district, or in a total state. In any case, the set of objectives described serves as the starting point. A statewide assessment of one area of the curriculum would include those objectives which all pupils at a given level would be expected to achieve. An assessment program for an individual classroom would also include all objectives which those pupils would be expected to achieve. Naturally, the two sets of objectives might differ. However, it would be assumed that the objectives selected for the state assessment program would be included among those which the pupils in the individual classroom would be expected to achieve.

3. After objectives are selected, assessment exercises are assembled which deal specifically with those objectives. One or more items are identified for each specific objective. The items are carefully screened so that it is likely that pupils who have achieved

an objective will be able to respond correctly and pupils who have not achieved that objective will not be able to do so. As a result, when the test exercises are administered, persons responsible for the program will be able to ascertain which objectives have been achieved and which have not.

The above steps are designed to assist professional educators in identifying the desired results of their curricula. However, they are only a component of what is needed to help lay policymakers identify the results which they feel programs should achieve. Therefore, additional steps are planned to help relate general educational goals to specific objectives of the curricula. These steps are as follows:

4. Begin with the goals of education--e.g., vocational efficiency, worthy home membership, command of fundamental processes, community participation, etc. Identify the specimen tasks which relate to each of those goals. For example, a task relating to "worthy home membership" might be "for the individual to be able to manage home budgets to conform with family income."

5. For each specimen task selected, identify the specific objectives in school curricula (described in number 2 above) which are requisite to the selected tasks.

6. In reporting assessment results to policy makers and to the general public, results will be reported in terms of the tasks which have been derived from the general educational goals. In other words, report that "87 percent of the seniors in high school appear to have the requisite skills for managing home budgets to conform with family income."

There are presently 11 projects for developing techniques to assess results of educational programs. These projects are in the following areas: communication skills, art, music, reading, human relations skills, horticulture, science, mathematics, employability skills, and business education. In all areas except reading, the goal is to have a catalog of objectives completed by the summer of 1971 and to have a first version of assessment exercises which can be tested in individual classrooms by fall, 1971. In the area of reading, the goal is to complete all of the above steps by December, 1971 and to have results of a statewide reading assessment ready to report in March, 1972. Only the development and field testing of assessment procedures in reading or in other areas will be supported with Research and Development funds. The actual implementation of a statewide assessment is considered an operational program of the Department of Education, rather than a research and development task.

How Much do Educational Programs Cost?

A second critical question is, "How much do educational programs cost?" Presently,

it is possible only to account for the expenditure of funds by local school boards; it is not readily possible to relate those expenditures to programs in the school curriculum except in cases where funds are appropriated exclusively for a given program (e.g., an ESEA Title III project). Therefore, it is not possible to relate costs to program results.

For many years, it was assumed that the expenditure per pupil was a reliable index of the quality or effectiveness of a school program. However, recent experience with federal funds appropriated for Title I of the Elementary and Secondary Education Act suggests that increasing per pupil expenditures does not automatically increase pupil learning. Thus, it is necessary to obtain more precise information regarding program costs and to collect this information in terms of factors which seem to relate to pupil learning.

The Department of Education is taking a dual approach in developing the capability to assess costs of educational programs. The major effort is being placed on the development of an accounting system which will replace present accounting procedures being used by local school districts in Florida. The system is expandable, allowing for detailed cost accounting. Even when used at the minimum level, the system will provide much more detailed information on the expenditure of funds than is now available.

A secondary project is the development of a system for collecting information which is not a regular part of the accounting procedures. Such a system might be used to supplement routine accounting procedures when certain information is desired but where the cost of collecting that information on a total school system might not be warranted by anticipated benefits. Thus, the information would be collected on a sample of programs within the district. Another case for using the supplementary system might be one in which an identified need was not included in the accounting system. Thus, information would be collected on a sample of programs using the supplementary system.

The supplementary system would consist of a set of standardized questions and data forms for collecting cost information. Data would be provided by teachers, administrators, or other appropriate personnel.

It is planned that a complete new accounting system will be ready for implementation statewide at the beginning of the 1972-73 school year. The supplementary system will be ready for use in pilot projects during the fall of 1971 in conjunction with new techniques for assessing program results.

Are Resources Being Used Effectively?

Once information on program results and costs is available, it is possible to deal with the critical question, "Are resources being used effectively?" It bears repeating that without information on program results, any question regarding the effectiveness of resource utilization is purely speculative. If program cost is a concern--as it usually is--it is also unrealistic to con-

sider the question of effective resource utilization without information on costs.

The productivity of resources is a key element of an organized educational program. The productive use which a classroom teacher makes of potentially available resources constitutes the art of teaching. Likewise, the productive use by principals, superintendents, and state education officials of resources which are potentially available constitutes the essence of educational management. An analysis of the use of educational resources is an analysis of the educational processes which are taking place.

The resources to be used include staff, materials,facilities (space), pupils, methods, and time. The first three resources -- staff, materials, and facilities -- normally cost money; therefore, these items will be included in the cost analysis system.

It should be recognized that there is presently no absolute index of the productivity of resource utilization. While it is possible to compare cost per pupil or pupil achievement from one program to another, it is unlikely that it is possible to compare program effectiveness (i.e., the effectiveness of resource utilization) of two programs unless the objectives of both programs are identical and the pupils enrolled in the programs are identical. Such an occurrence is improbable; while there may be programs with identical objectives, it is difficult to find identical pupils. Nevertheless, very meaningful assessments of resource productivity can be obtained if cost data and information on program results are also analyzed. The main question to be answered by such an assessment is,"Can the productivity of resources be improved?"

The productivity of educational resources is said to be improved (a) when costs are reduced without an accompanying loss in pupil achievement,(b) when pupil achievement is increased without increasing costs, or (c) when both pupil achievement and costs are increased but the increase in achievement is judged by decision-makers to warrant the increase in costs.

The first step in developing a system for assessing resource utilization is to identify alternative types of activities in which pupils may engage in order to accomplish the educational objectives. The full range of alternatives should be identified, from unsupervised independent study which takes place outside the contexts of formal education, to individual tutoring by a skilled professional in a school setting. For each type of learning activity, the following information will be specified:

1. Time requirements.

2. Skills or competencies required of the pupil in order to participate in this kind of learning activity.

3. Attitudes required of the pupil in order to participate in this type of learning activity.

4. Media or materials required.

5. Facility or space requirements.

6. Personnel support (i.e., assistance from teachers, aides, other pupils, etc.).

Alternatives or combinations of alternatives, for each of the above need to be identified. Relative cost factors are then assigned to each alternative. For personnel alternatives, competency specifications must be set forth. Also, each type of pupil learning activity should be related to the types of objectives for which it is most appropriate.

The next step is to develop, or identify, instruments which can be used to describe the status of the above variables in any school or educational program. As a result of applying the instruments, it should be possible for professional educators to make wise judgments about the productivity of resources in a school or educational program. On the basis of those judgments, the program can be modified. If subsequent cost analysis information and assessment of program results--when taken together--indicate that program effectiveness did improve, the wisdom of the judgment made by the professional educator is confirmed.

While the system under development is designed to help professional educators make better decisions about resource productivity, it should be recognized that lay policy makers must assume a vital role in the implementation of the system. Normally, it will be lay policy makers who give sanction to the objectives which have been adopted for the educational program being analyzed. Also, cost constraints for educational programs are normally established by lay policy makers. It is within the context of established objectives and limitations on cost that the professional educator must recommend the type of resource utilization which is likely to be most effective. However, when a new pattern of resource utilization is introduced, it will be the assessment of program results and the analysis of costs which are the primary indices of effectiveness.

Coordinating and Managing the Development of Assessment Techniques

The establishment of the developmental program described in this chapter places a significant responsibility for coordination and management upon the Department of Education. First, it is necessary for each assessment project to develop techniques that are compatible with the programs which they are to assess. For this reason, each assessment project is closely monitored by a Department of Education consultant in the special area which is represented. The assessment project in art is monitored by the art consultant, the assessment project in horticulture is monitored by a consultant in agriculture education, the cost assessment project is monitored by a consultant from the Bureau of School Finance, and similarly with each of the other projects.

A second kind of coordination is also necessary. Since all projects are expected

to produce components for an overall assessment system, it is necessary that all projects be compatible along technical lines. To accomplish this type of coordination, a team of four technical coordinators has been identified. The technical coordinators are university faculty members released from their regular duties to assist personnel working on local projects. The technical coordinators perform the following roles:

1. Consultants on technical problems or issues related to the development of criterion-referenced test exercises.

2. Resource persons for identifying external sources of objectives or tests items.

3. Trainers of project personnel in techniques for writing objectives and tests items.

4. Representatives of the Department of Education in monitoring technical aspects of projects.

Technical coordinators are supported through contracts between the Department of Education and the institutions in which they are employed. It is anticipated that additional services of this type will be required as the number of assessment projects is increased.

CHAPTER III

IDENTIFYING AND EVALUATING ALTERNATIVE POLICIES AND PRACTICES

In Chapter I, a new state strategy for improving education was described. This strategy consists of reducing restrictions on persons responsible for educational programs and at the same time increasing requirements for accountability. It is apparent that all educational programs should not be required to be identical. In fact, it is grossly unfair to declare an educator to be accountable and then severely restrict the options available to him in carrying out his program.

At the same time, it seems unwise to discard the educational policies and practices which have survived through the years as representing the best thinking of policy makers and practitioners. Therefore, the Department of Education has undertaken a systematic program to identify and evaluate alternative educational policies and practices. The goal of this program is to explicate alternatives so that they can be adopted when appropriate.

It should be recognized that policies and practices which are currently in use are included among the available alternatives. The R & D Program is not seeking novelty as an end in itself. The evaluation techniques and instruments which are under development will be used to assess current methods, as well as alternatives to those methods.

The major goal for the R & D Program as well as for the total Department of Education, is to increase the productivity of Florida's educational system. The conditions indicating increased productivity are the same as those described earlier as being indicators of the improved utilization of educational resources. Educational productivity increases when any one of the following conditions are present: (a) costs are reduced without an accompanying loss in pupil achievement, (b) pupil achievement is increased without increasing costs, or (c) both pupil achievement and costs increase but the increase in achievement is greater (i.e., more significant) than the increase in costs.

A network of participating schools will be established in which the relative productivity of a wide variety of educational strategies can be evaluated. Evaluations will employ instruments and techniques developed in the R & D Program. Thus, comparable evaluation results will be obtained from all projects.

It was not possible to begin the evaluation of alternative practices during the first operational year of the R & D Program, since the assessment techniques are still under development. However, several projects are underway to identify and develop alternative practices which have been recommended for consideration by advisory groups. These projects are summarized in this chapter.

Individualizing Instruction

It is generally agreed that instruction must be individualized if pupil learning is to be increased. Thus, the individualization of instruction is a key concern among persons interested in increasing educational productivity. A major project under the R & D Program will design, develop, demonstrate, and evaluate an optimized system of individualizing instruction for a public elementary school. This system will take advantage of the most well developed and promising materials, techniques, and procedures available throughout the nation. The model will be demonstrated in an existing Florida school with existing faculty members. The model will be designed for dissemination to other schools throughout the State.

The project is beginning with a design effort involving substantial commitments of time by faculty members of Florida State University and other institutions in Florida. This will be followed by a developmental effort involving the systematic development of components and techniques in a controlled environment in the University Elementary School at Florida State University. Key faculty personnel from selected public schools in the State will participate in the planning phase of development.

The next step will be a demonstration effort, installing the developed model of individualized instruction in a public elementary school. This will include the establishment of the components of administration, management, teacher preparation, and instruction within a total system designed to have the potential for widespread dissemination to Florida schools. One or two satellite schools within the same school district will be selected to serve as hosts for the installation of the model in existing school environments. Evaluation of the program will be planned concurrently with the design of the system.

A second project related to individualized instruction is a short term activity in the area of reading. It is a project to install the Hackett Reading Systems in 290 classrooms at all levels. The Hackett Systems consist of a set of behavioral objectives for instruction in reading with a test sheet prepared for each objective. Classroom teachers and aides have been trained to administer the tests. Teachers then use the results of the tests to prescribe learning activities for individual pupils. Standardized tests were administered to participating pupils, as well as to a control group, prior to the beginning of the project. The tests will be administered again at the end of the school year so that achievement of pupils in classes where the systems were used can be compared with achievement of pupils in comparable classes where the systems were not used.

A third project for individualizing instruction is designed to identify techniques of teaching which actively involve students in the instructional process. This project will identify techniques which teachers can use to involve students in instruction. It will then develop training materials for both teachers and students so that the techniques can be implemented generally. These materials will be available by the end of 1971.

Projects Relating to Educational Personnel

Educational personnel must be a major focus of any effort to improve the productivity of an educational system. It is generally agreed that, within the system of public education, teachers are the most important factor in educational achievement of pupils. Furthermore, the proportion of the educational budget allocated for salaries of teachers and other instructional personnel ranges from 75% upward.

One project related to the utilization of educational personnel was initiated by the Department of Education prior to the establishment of the R & D Program. This project, which is in its second year, aims at flexible staff utilization and is designed to train personnel to function within different patterns of staff organization. During the first year, the emphasis was on dissemination of information regarding possible alternative patterns of staff utilization and on training state leadership personnel. During the current year, the emphasis is on training personnel in local schools. Three school districts are participating--Dade County, Sarasota County and Leon County--along with the Department of Education. During 1971-72, the emphasis will be on training additional personnel for full implementation of alternative patterns of personnel utilization.

The Department of Education has also been conducting a number of other activities to specify the competencies which teachers are expected to demonstrate and to improve the training of teachers in those competencies. These activities have included (a) recommending statutes and regulations which will promote teacher training and licensure practices built on specified competencies and (b) supporting the development of new training materials and procedures aimed at specified competencies. A limited number of individualized teacher training modules have been developed and are now in use in preservice and inservice teacher training programs within the State.

It should be noted that in Florida, as in other states, teacher training programs and teacher licensure requirements are based upon professional judgment regarding the competencies which teachers should possess. This is not unreasonable, since professional judgment is the best evidence available. However, at its meeting on January 29-30, 1971, the R & D Board of Governors made the following recommendation:

> "The Department of Education should seriously consider a policy which would provide that by 1974, teacher certification requirements would be based only on research evidence showing the relationship between those requirements and pupil achievement. The Department should institute research projects which will generate information showing the relationship between specified teacher characteristics or behaviors and pupil achievement."

The Department of Education is now preparing a plan to consolidate and expand its research and development activities in teacher education. The plan has the following components:

1. Develop comprehensive statements of teacher competencies, leading to the development of instruments for assessing those competencies similar to the instruments being developed under the R & D projects for assessing pupil learning.

2. Conduct research to demonstrate the relationships between teaching competencies and pupil learning.

3. Identify or produce materials for training teachers and other educational personnel in specified competencies.

4. Assist institutions and school districts with staff development for teacher training personnel so that newly developed training materials and techniques can be used in their programs.

The initial development of the comprehensive statements of teacher competencies and the assembly of training materials has begun. Remaining parts of the plan will be supported from subsequent R & D allocations and from other sources.

Other Projects

Three additional projects aimed at alternatives which will increase the productivity of the educational system are underway. Only one of these projects involves a significant investment of R & D funds. It is a project to promote expanded use of school resources to serve the community and is intended to bring the schools and community closer together. This project is designed to facilitate the implementation of the Florida Community School Act of 1970. That Act provides support to local school districts which wish to employ community school directors and establish community school programs. The importance of systematic training for community school directors has been emphasized repeatedly by consultants knowledgeable in community education. They view a successful training program as the key element to make the community school program successful.

Since short term programs which could handle large numbers of community school directors are not available, the R & D project is aimed at developing and demonstrating such a program. The project also includes the training of three persons who will be qualified to conduct the training program at regional centers within the State. The training program will include a three-week preservice session followed by appropriate inservice activities. Training objectives for the program will be carefully specified and techniques for evaluating the extent to which objectives are achieved are also being developed. The program will be individualized and performance based. The R & D support for the training program will be limited to development, training for three persons who will conduct the program, and one field-test.

The second project is designed to extend the school year and thus provide for more efficient use of school facilities. This project was established by the

Florida Legislature. It provides support to projects in Dade County, Clay County, and Bradford County. Each county is taking a different approach to extending the school year. The approaches are (a) a "quinmester" plan with staggered attendance, (b) a summer program combining the goals of enrichment and acceleration not to exceed one year in thirteen (K-12), and (c) an extended term plan.

The final project deals with alternative ways of using educational capital. It has been suggested that the most important inhibiting factor to school reform and renewal is the line item budget, commonly the sole budget for the school enterprise. Recent experience at federal, state, and local levels in the expenditure of many billions to secure better and more responsive practice in the public schools suggests that the pattern of funding, the mix of funds and the mechanism for allocating dollars, may be as important for the success of a given program as the actual amount allocated.

One alternative method for using funds is performance contracting. With this approach, a school district defines results that it expects. It then invites proposals from individuals or firms which will agree to meet its expectations. Such a project has been undertaken in Duval County with support from ESEA Title I funds. The Department of Education, as part of its Educational Research and Development Program, is studying the Duval County project, along with other projects, to identify strengths and weaknesses in the performance contracting approach and to subsequently provide information to others who are considering performance contracting.

Policy Alternatives

The term "policy" is intended to denote those broad goals, principles, and guidelines which chart the path for educational programs. In any effort to improve education, the underlying policies are primary determinants of the types of improvement projects which will be supported. The underlying policies also provide the rationale for interpreting the results of those projects.

A comprehensive improvement program employing educational research and development as a strategy should certainly include a component for studying educational policy. The interactive effects between policy and technology are powerful. Restrictive policies can discourage or thwart the development and application of certain kinds of techniques, while encouraging others. For example, the present concern for environmental quality has spurred the development of a polution-free automobile and has halted the development of a large airplane which travels at supersonic speeds. Likewise, technological advances can make certain policies appear outmoded. This is illustrated by the changes in highway speed limits which were brought about by advances in techniques for constructing highways and for constructing vehicles.

It is not being suggested that policies must be changed to make way for technology. More often than not, the judgment will probably go the other way. Since technology is expected to serve people, rather than vice versa, policy studies should

lead to policy recommendations which are consistent with the aims which people hold. With clear policies, the development of technology can proceed in a manner which will serve the people.

The foregoing ideas have a clear application to the Florida Educational Research and Development Program. When many of the current educational policies were adopted, they were not considered in the light of technological advances which could accrue from the R & D Program. Consequently, certain policies may unnecessarily hinder developments which could occur under R & D. Also, there is a possibility that new policy guidance is needed to avoid undesirable consequences which could result from poorly selected R & D targets.

A major concern in policy studies is with the consequences of a proposed or established policy. A policy can be considered desirable or undesirable on the basis of the consequences which are likely to accrue as a result of adopting the policy. In examining the consequences of a policy, it is important to consider the full range of persons or events which may be effected by the policy. For example, in considering a policy for educating kindergarten children, it is important to consider the consequences in terms of the children (present and future), the parents, the teachers, the school administrators, and the community large. A second consideration in policy studies is the relationship between a given policy and other established policies. Ideally, the total domain of policies governing a program should comprise a network of logically associated policies with consistency throughout.

The R & D project for analyzing policy alternatives is aimed at developing the capability within the Department of Education for conducting such analyses. This project will provide training to Department staff members and will also provide technical assistance in policy analyses.

Management and Coordination of Projects

As with the assessment projects discussed in the preceding chapter, the management and coordination of the projects for evaluating alternative policies and practices present a special challenge to the Department of Education. Each of the projects described in this chapter is monitored by a Department of Education consultant in the special area represented by the project. No contracts for external management or coordination of these projects were issued in 1970-71. However, it is anticipated that during 1971-72, it will be necessary to allocate funds for supporting external management and coordination activities. Such support will be required primarily to coordinate the activities of the network of participating schools and to provide technical assistance to those schools.

CHAPTER IV

EXPECTATIONS FOR THE FLORIDA EDUCATIONAL RESEARCH AND DEVELOPMENT PROGRAM

Section 229.561(2)(b)12, Florida Statutes, requires that the Board of Governors for Educational Research and Development submit an annual report ". . . pointing out significant and new information, practices, or other benefits which have been accomplished through the program." Those accomplishments are described throughout this report. In the present chapter, the aim is to summarize those accomplishments and to put them into perspective.

To this date, the major accomplishment has been the establishment of a significant new capability in the Department of Education: namely, the capability of allocating developmental resources for transforming ideas into possibilities. Traditionally, state resources have been appropriated to pay teachers, build schools, buy textbooks, and transport children. It has been very difficult to use available funds to develop more effective techniques for carrying out the mission of education. Thus, the Department of Education, the State's dominant leadership agency in education, has been limited in its capability to transform ideas into true possibilities.

The second major accomplishment is the actual establishment of a series of inter-related research and development projects directed toward identified state needs. This is no mean accomplishment if viewed alongside other government-sponsored efforts in educational research. The normal pattern has been one of building research programs around the expressed interests of researchers in the field, rather than around needs systematically identified by the agency responsible for providing educational leadership. The projects now in progress under the Florida R & D Program will provide techniques for assessing educational costs, processes, and results. Additional projects are underway which will produce techniques for making education more effective.

The third major accomplishment of the R & D Program is a natural outgrowth of the first two and is possibly the most significant. This accomplishment is manifested in statements of expectations which were not held previously. The Board of Governors, along with the Department, holds bold expectations for the R & D Program. Needless to say, expectations are significant forebearers of results.

Expectations

The R & D Program is aimed at transforming three significant educational ideas into possibilities: increased productivity in the educational system, increased accountability for educational programs, and continuing self renewal in all of education. These ideas are not isolated but inter-related. Each is dependent

upon the others for its success.

Increased Productivity.--Educational productivity is increased when one of the following conditions is present: (a) costs are reduced without an accompanying loss in pupil achievement, (b) pupil achievement is increased without increasing costs, or (c) both pupil achievement and costs increase but the increase in achievement is greater (i.e., more significant) than the increase in costs. Many writers and researchers over the past decade have asserted that the level of expenditures is a valid index of program quality. However, recent studies have demonstrated that increases in expenditures do not necessarily result in increases in pupil achievement. The R & D Program is designed to identify and demonstrate techniques for increasing productivity.

Increased Accountability.--Accountability is defined as "the process for explaining the utilization of educational resources in terms of their contributions to the attainment of desired results." The magnitude of the public investment in education, as well as the tenor of the times,has placed educational managers under pressure to account for their stewardship of financial and human resources. Teachers and other school officials are not unwilling to be accountable. However, they do not feel that the present methods for assessing pupil learning or for assessing resource utilization are adequate for accountability. The R & D Program is developing new assessment techniques which will make accountability increasingly more feasible.

Self-Renewal.--Self renewal is the process whereby an institution continually modifies its goals and objectives to meet the needs of its clients and continually modifies its program to facilitate the attainment of its objectives. Self-renewal requires (a) continuous monitoring of the extent which a program is achieving its objectives, (b) continuous evaluation of the appropriateness of established objectives, and (c) continuous identification of alternative policies and practices for consideration. Self-renewal requires a focus on the goals which an institution should pursue, rather than on the institution as an end in itself. Institutions which fail to renew themselves are often those which become preoccupied with their established traditions and practices, while giving only secondary attention to their goals. The R & D Program will provide techniques for analyzing the extent to which goals are attained and will identify and demonstrate alternatives for achieving educational goals.

Targets

The Board of Governors has specified targets which relate to the expectations described above. These targets are ambitious, yet realistic milestones for achieving those expectations. The targets represent improvements in educational management, in personnel training and credentialing, and in educational technology.

By 1972.--By the end of 1972, techniques for improving educational management will be available and readily accessible to all school districts in Florida. These will include techniques for (a) obtaining criterion-referenced measures

of pupil achievement in grades K-6 in basic skill areas taught in those grades, (b) obtaining detailed analyses of educational costs, and (c) obtaining analyses of the effectiveness of resource utilization, with recommendations for improvement.

By 1974.--By the end of 1974, competencies expected of teaching personnel in elementary and secondary schools will be clearly identified. Evidence will be available showing relationships between teacher competencies and pupil learning. Teacher training techniques will be available for use in preservice and inservice teacher education programs which are aimed at the specified competencies. Evidence will be available to State policy makers which shows the extent to which teacher effects on pupil learning support various credentialing requirements.

By 1976.--By the end of 1976, techniques will be available and accessible to each school district which will make it possible for every child who is not severely handicapped to master the basic skills of communication and computation during the elementary grades of schooling at an average per pupil cost which is within the range of the normal operating budget of any school district in Florida.

R & D Budget: 1971-72

The Board of Governors recommended that the Commissioner of Education request $4 million to operate the Educational Research and Development Program during 1971-72. This compares with $1.2 million which was allocated for 1970-71, the initial year of operation for the program. The funds would be distributed over five kinds of projects. The types of projects are listed below, showing the manner in which funds were expended in 1970-71 and the recommended spending plan for 1971-72:

	1970-71	1971-72
Development of assessment techniques	$600,000	$1,200,000
Demonstration and evaluation of alternative educational techniques in a network of individual participating schools	--	1,000,000
Projects to develop or demonstrate new techniques for subsequent field testing in participating schools	365,000	800,000
The development of new teacher training techniques and research on teacher competency	135,000	600,000
Consultation and administrative support (Board of Governors, Advisory Council, outside consultants on total program, contracts for management support and technical assistance to network of participating schools)	100,000	400,000

Expectations, Possibilities and Promises

Early in this Chapter, it was asserted that a major achievement of the R & D Program for 1970-71 has been the establishment of expectations for increased productivity, increased accountability, and self-renewal in education. It was further asserted that the mission of the R & D Program is to transform these expectations into possibilities. It must be recognized, however, that the R & D Program can promise only that the expectations will truly become possible. There are many individuals, groups, and corporate bodies which influence the direction of education in Florida. The R & D Board of Governors feels that a true demonstration of the possibilities for increased productivity, accountability and self-renewal will be a significant contribution to Florida education. Hopefully, the state legislature, the State Board of Education, the Commissioner of Education and his staff, the local school boards, the local school administrations, the school faculties, the pupils, the parents, and the general public will espouse these same expectations. If this occurs, the possibilities will become promises. All will benefit.

APPENDIX A:

LEGAL AUTHORIZATION FOR THE FLORIDA
EDUCATIONAL RESEARCH AND DEVELOPMENT PROGRAM
(Section 229.571, Florida Statutes)

229.561 Educational research and development.—There is hereby created an educational research and development program which shall be administered by the commissioner of education. It is the intent of the legislature that a specific sum of funds shall be allocated each year for the sole purpose of sponsoring the designing, development, testing, and evaluation, on a pilot project basis, of applied or action research studies or projects which seek information on questions of critical concern to present and future educational needs of this state. The commissioner of education shall develop and implement an educational research and development program as hereinafter provided. The commissioner of education shall develop and transmit, at least thirty days prior to the 1970 regular session of the legislature, to members of the state board of education, the president of the senate, the speaker of the house of representatives, and members of the senate and house committees on education a detailed plan for implementing a program of applied educational research and development. The plan shall be for four years of operation beginning July 1, 1970. The plan shall be in detail for the 1970-1971 fiscal year and the funds to support projects for 1970-1971 shall be included in the legislative budget of the state board submitted to the governor as chief budget officer of the state for the 1970-1971 fiscal year. The plans submitted in 1970-1971 for the second through the fourth year may be stated as a general long-term plan and will not require detailed cost estimates.

*(1) ADVISORY COUNCIL.—The board of education shall, within thirty days following the effective date of this act, appoint an educational research and development advisory council from a list of two or more names nominated for each position by the commissioner of education.

(a) *Membership.*—The number of individuals appointed to membership on the advisory council shall be determined by the state board of education; provided, however, that at no time shall the total membership of the advisory council consist of less than twelve persons. Each member shall be appointed for a period of one year. Members shall be eligible for reappointment. The membership and the total number of members may change from time to time as deemed appropriate by the board of education. In making appointments, the state board and commissioner shall insure that the membership shall include representation from various segments of education and shall include lay citizens and students.

(b) *Duties and responsibilities.*—As soon as practicable, following appointment of the initial members of the advisory council, the commissioner of education shall call an organizational meeting of the council. From among its members, the council shall elect a chairman, who shall preside over meetings of the council and perform any other duties directed by the council or required by its duly adopted policies or operating procedures. The council shall also perform the following duties and responsibilities:

1. Within ninety days following the effective date of this act or on September 30, 1969, whichever is the earlier date, the advisory council shall recommend individuals for nomination to membership on a board of governors for educational research and development. The advisory council shall recommend to the commissioner of education the names of at least fifteen individuals who shall include both lay citizens and professional educators of national prominence in education. The commissioner shall nominate two or more individuals for each position on a board of governors for educational research and development.

2. Make recommendations, as it deems appropriate, to the board of governors concerning the establishment and operation of a program of sponsored educational research and development as provided by this act.

3. Be knowledgeable about all projects sponsored under the provisions of this act and make such recommendations to the board of governors as in the opinion of the members of the advisory council will be of assistance in improving the program.

4. Review the evaluative data on each proj-

ect sponsored under the provisions of this act and make recommendations to the board of governors about the potential benefits the project information has for education in Florida and strategies for implementing it, including, where appropriate, priorities, target areas, phasing, or sequence.

(c) *Payment of expenses.*—Members of the advisory council shall be entitled to receive per diem and expenses for travel while carrying out official business of the council. Such expenses shall be paid in accordance with state law relating to official state travel. The department of education shall approve payment of such expenses in accordance with established rules and regulations.

(2) BOARD OF GOVERNORS FOR EDUCATIONAL RESEARCH AND DEVELOPMENT.—The state board of education shall, from the individuals nominated by the commissioner, appoint a board of governors for educational research and development.

(a) *Membership.*—The board of governors shall not exceed nine members and shall include citizens and professional representatives from several different levels of education and, to the extent possible, shall include individuals of national prominence in education from both within and without the state. The terms of appointment for each member shall be three years and until a successor is appointed, except in case of an appointment to fill a vacancy, in which case the appointment shall be for the unexpired term; provided, however, the terms of the initial members shall expire as follows: Three on July 1, 1970, three on July 1, 1971, and three on July 1, 1972.

(b) *Duties and responsibilities.*—As soon as practicable following appointment of the board of governors, the commissioner of education shall call an organizational meeting of the board. From among its members, the board shall elect a chairman, who shall preside over meetings of the board and perform any other duties directed by the board or required by its duly adopted policies or operating procedures. The board shall also perform the following duties and responsibilities:

1. Make recommendations to the commissioner for establishing a program for educational research and development as provided by this act.

2. Submit to the commissioner of education, in priority groupings, specific educational and education-related questions which, in the opinion of the board of governors, are most critical to improving the effectiveness of public education in Florida.

3. Establish criteria to be used in selecting a network of schools throughout the state to participate in conducting projects sponsored under the provisions of this act.

4. Assist with defining specifications for projects to be sponsored by the educational research and development program. All projects sponsored under the provisions of this act shall be designed to state clearly the specific objectives of the project, appropriate controls to insure reliability of data obtained from the project, appropriate evaluation of the project, especially as to the attainment of stated objectives, and adequate dissemination of the results of projects.

5. Recommend to the commissioner of education projects which, in the opinion of the board, should be approved for sponsorship by the educational research and development program.

6. On the basis of the priority of projects to be undertaken and the criteria for selecting participating schools or centers, solicit, on a statewide basis, application from local schools and centers to be designated as a participating school or center.

7. Review applications from local schools or centers and recommend to the commissioner of education the schools or centers deemed to be, in the opinion of the board, those which best support and serve the purposes of the educational research and development program.

8. Review project specifications prior to approval for funding.

9. Recommend to the commissioner of education a highly qualified person to be appointed to administer and direct the program of educational research and development as provided by this act.

10. Review, periodically, the activities of each sponsored project and make to the commissioner of education any recommendations deemed by the members of the board to be appropriate.

11. Recommend to the commissioner of education strategies for implementing on a broader scale findings which have immediate relevance for improving the effectiveness of education in Florida.

12. Review the evaluative data from each sponsored project and at least thirty days prior to the convening of each session of the legislature, file with the commissioner of education for transmittal to members of the state board of education, the president of the senate, the speaker of the house of representatives, the chairmen of the senate and house committees on public school education, a report listing all projects sponsored under the educational research and development program up to that date and pointing out significant and new information, practices, or other benefits which have been accomplished through the program.

(c) *Payment of expenses.*—Members of the board of governors for educational research and development shall not receive a salary but shall be entitled to receive per diem, expenses for travel and honoraria while carrying out official business of the board in ac-

cordance with state law relating to official state travel. The department of education shall approve payment of such expenses and honoraria in accordance with established rules and regulations.

(3) NETWORK OF PARTICIPATING SCHOOLS OF EDUCATIONAL CENTERS.—There shall be established a network of participating schools or educational centers which shall be representative of all levels of public school education, kindergarten through post high school vocational education and which also shall be representative of the various types of student bodies, organizational patterns, staffing patterns, financial support, and types of curricula generally prevalent in Florida.

(a) *Selection of participating schools or centers.*—Based on the priority of projects to be undertaken and the criteria established by the board of governors for educational research and development, the principals and faculties of the schools of the state shall be given an opportunity to file, through the superintendent of schools and district school board, an application seeking to be selected and designated as a participating school or educational center of the state educational research and development program. The advisory council and board of governors shall review the applications, and the board of governors shall recommend to the commissioner of education the schools or centers which in the opinion of the board will best support and serve the purposes of the educational research and development program. From the schools and centers recommended by the board of governors, the commissioner shall designate the schools or centers which shall be eligible to participate in projects sponsored by the educational research and development program provided by this act.

(b) *Number of participating schools or centers.*—The number of participating schools or centers designated by the commissioner of education shall be limited to only those centers actually required to satisfactorily carry out the projects sponsored by this program.

(c) *Waiver of laws or regulations.*—In the event the commissioner of education is provided evidence satisfactory to him that a state board of education regulation will prohibit the success of a project considered to be highly significant to education, the state board of education, upon hearing the evidence and justification presented by the commissioner of education, shall have authority to waive the regulation to the extent necessary for achieving the purposes of the particular project. Any waiver of a regulation authorized by the state board of education shall not be greater than that necessary to insure the success of the project, and such waiver shall not continue beyond the actual period required by the project. Each application filed by a school or center seeking to be designated as a participating school or center shall include an official resolution by the district school board that when projects sponsored in schools or centers operated by that board require waiver of policies or regulations of the district school board, such policies or regulations will be waived in the same manner as prescribed to be followed by the state board of education in waiving regulations. In the event a proposed project will require the waiver of state board of education or district school board regulations, the commissioner of education shall not approve such project prior to receiving evidence of the official action by the state board of education or the district school board that the *impeding regulations have been waived for the purposes of the project.

(d) *Cooperative support of projects.*—Each application for designation as a participating school or center shall include a resolution by the district school board that at least the level of financial support, staff, and other resources as provided for other programs within the district shall be continued for the school or center if it is designated as a participating school or center for the state educational research and development program. Funds available through the educational research and development program authorized by this act shall be used to pay only that cost which is incurred at a participating center which is in addition to the normal cost of operating the program in that district and which costs are a direct result of the state educational research and development project being sponsored in that school or center. Every effort shall be made by the board of governors, the commissioner of education and the district school boards to combine funds available through the educational research and development program with funds from other sources, including both the public and nonpublic sectors, in order to achieve greater cooperation efficiency in the improvement of education.

(4) ORGANIZATIONAL PROGRAM, 1969-1970 FISCAL YEAR.—The program shall become operational at the beginning of the fiscal year following its creation and authorization by the legislature. The 1969-1970 fiscal year shall be used for appointing and organizing the advisory council and the board of governors, employing staff, developing the master plan for the program, and designating participating schools or centers.

History.—§§1, 2, ch. 69-401; §§31, 35, ch. 69-106.
*Note.—"Impending" changed to "impeding" by the editors.

APPENDIX B:

NOTES ON THE FLORIDA EDUCATIONAL RESEARCH
AND DEVELOPMENT PROGRAM, 1969-71

This is a summary of the Florida Educational Research and Development Program as it has been conducted from its beginning in July, 1969 until the issuance of the Second Annual Report in February, 1971. The purpose of this summary is to relate the activities which have taken place in terms of the program description set forth in Section 229.561, Florida Statutes.

Program Development

During the fall and winter of 1969-70, nine areas were identified and recommended to the Commissioner of Education as appropriate foci for educational research and development. These nine areas served as the basis for the First Annual Report on the Educational Research and Development Program. That report was issued on February 24, 1970. In the spring of 1970, regional meetings were held in Tallahassee, Orlando, and Miami to review the proposed program with educational researchers, administrators, and teachers. As a result of those meetings and subsequent counsel, recommendations were made to the Commissioner of Education to redesign the program, placing greater emphasis on inter-relating the various types of projects. The aim should be to design a program with unity.

During the summer and fall of 1970, the program was redesigned. The Second Annual Report describes the new conceptualization of the program. While the projects to be conducted are essentially the same as those initially proposed, the emphasis on various kinds of projects and the probable sequence of activities have been modified.

The Second Annual Report was developed by the Board of Governors to describe the conceptual changes which the program has undergone. It is also intended to illustrate the manner in which the initial operational appropriation -- 1.2 million dollars -- is being used to support the principles of state educational leadership which are emerging from the legislature and from the executive branch of government. These principles are described in the first chapter of the Second Annual Report as "A New State Strategy for Improving Education."

The Advisory Council

The statute establishes an Advisory Council which is responsible for nominating members of the Board of Governors and making recommendations to the Board of Governors. The Advisory Council met on the following dates during 1969-70: September 18, September 29, November 5-6, December 5, February 9, April 27-29, and July 9.

The first two meetings were used to nominate members for the Board of Governors. The third meeting was a joint meeting with the Board of Governors to discuss the program. At the fourth meeting the Council reacted to the initial recommendations of the Board of Governors. At the fifth meeting a draft of the First Annual Report was reviewed and recommendations were made.

The next Advisory Council meeting was held in three sections, as Advisory Council members participated in the regional meetings described above. The final meeting of the 1969-70 Advisory Council was held to make general recommendations about the program which would be submitted by the Board of Governors.

The State Board of Education appointed a new Advisory Council for 1970-71. The new Council is comprised of 9 returning members and 15 new members. The Council met on November 16-17, 1970 and on January 12, 1971. At the first meeting, the Council made a critical analysis of the R & D Program as it was being conducted and adopted recommendations to be submitted to the Board of Governors. At its second meeting, the Council reviewed and revised the recommendations made at the first meeting. A committee was appointed to present the recommendations to the Board. Also, plans were made to prepare a set of guidelines or bylaws for the operation of the Council.

Board of Governors

The legislation provides for a Board of Governors with membership not to exceed nine persons. This Board is responsible for recommending program guidelines, recommending specific projects, recommending pilot schools, and recommending ways for using the information or products which result from R & D projects. The State Board of Education appointed nine members to the Board of Governors, three for one year, three for two years, and three for three years. Two of the initial members were unable to serve and a third member resigned after two meetings. In February,1970, two additional members were appointed. The three members who were serving one year terms during 1969-70, were re-appointed to three year terms in August, 1970.

During 1969-70, the Board of Governors met on November 5-6, December 7-8, February 9-10, and May 1-2. The first two meetings were devoted to a review of R & D related activities in the Department of Education and to general discussions of the type of educational research and development program which should be recommended. At the third meeting, agreement was reached on the content of the First Annual Report. At the fourth meeting, the Board received the recommendations from the regional meetings conducted by the Advisory Council (described above) and recommended to the Department that the program be organized in a manner which will show the inter-relationship of the various projects.

During 1970-71, the Board of Governors met on the following dates: July 10-11, 1970, September 11-12, 1970, November 5-6,1970, and January 29-30, 1971. At the July meeting, the Board reviewed conceptual papers and specifications for projects which have been prepared by staff members and consultants. Refinements

were recommended for the specifications and the papers. At the September meeting, statements from Commissioner Christian and other top officials of the Department of Education were presented to the Board. After discussing the presentations and reviewing program specifications which had been prepared, the Board recommended that applications be solicited immediately from public schools in Florida to develop assessment instruments. At the November meeting, the Board reviewed applications from schools and recommended that the staff proceed to work out contracts for assessment instruments with selected applicants. The Board also recommended that contracts be negotiated with schools, universities, or others for additional R & D projects.

At its January meeting, the Board reviewed the projects which had been developed. The Board recommended closer communication with the Advisory Council, along with special efforts to inform teachers and educational policy makers about the R & D program. It also recommended the development of projects to improve teacher education. Finally, the Board reviewed, edited and approved the draft of the Second Annual Report.

Network of Participating Schools

The legislation provides for a network of participating schools or educational centers. These schools are to be identified for the purpose of testing and evaluating techniques or products identified or developed under the Educational Research and Development Program. Up to the issuance of the Second Annual Report, no pilot schools have been identified. Since the initial focus of the R & D Program is on developing assessment techniques, it is not practical to conduct comparative tests of alternative educational procedures or products until the assessment techniques are developed.

Applications for participating schools will be soliciated during the spring of 1971. Following review of those applications by the Advisory Council and the Board of Governors, the Commissioner of Education will designate participating schools.

Participating school projects will be of two types: developmental projects and field trials. The two types are representative of different stages of development of the techniques which are to be demonstrated in the school. A developmental project is one in which the idea has not been refined through developmental work in a school setting. A field trial project is one in which the developmental process has been completed, but the efficacy of installing the program in other schools has not been demonstrated.

For developmental projects, R & D funds can be used to underwrite extra training and supervisory costs necessary for a first trial, along with the costs of monitoring and evaluating the project. For field trials, R & D support is limited to the cost of monitoring or evaluating which would not be necessary or expected in the normal operation of the program; installation costs will be the responsibility of the participating school.

APPENDIX C:

ANNOTATED BIBLIOGRAPHY OF UNPUBLISHED PAPERS WHICH RELATE TO THE FLORIDA EDUCATIONAL RESEARCH AND DEVELOPMENT PROGRAM

A significant amount of conceptualization and planning has taken place during the development of the Florida Educational Research and Development Program. Much of this planning is documented by speeches, papers, minutes, announcements, and reports. The following is a chronological listing of some of those documents with brief annotations. Some items listed were not developed specifically for the Educational Research and Development Program, but represent parallel activities in the Department of Education. It should be noted also that the list is not definitive; certain parallel activities may have been inadvertently omitted.

While the supply lasts, single copies of each of the documents listed below may be obtained from Mrs. Nancy Benda, Research Associate, Florida Department of Education, Tallahassee, 32304.

Minutes

Minutes of all meetings of the Advisory Council and Board of Governors are on file in the Department of Education. Extra copies of the minutes are available for the Advisory Council meetings held on November 5-6, 1969; December 5, 1969; February 9, 1970; July 9, 1970; and for the Board of Governors meetings held on November 6-7, 1969; July 10-11, 1970; and September 11-12, 1970.

Papers and Speeches

1. Floyd T. Christian, "Educational R & D: A Tool for Decision-Makers," September 19, 1969. This is the Charge presented by the Commissioner of Education to the Advisory Council at its first meeting. 8 pages.

2. Charles R. Russell, "A Survey of Innovations in Florida Schools: Preliminary Draft," December, 1969. Information collected in this survey was obtained exclusively from sources within the Department of Education. It describes a limited number of innovative programs. The criteria for selecting programs for inclusion in the survey were very restricted. 32 pages.

3. Bob Burton Brown, "Tools and Techniques for Evaluating Innovations," December, 1969. Describes approaches to evaluating innovative programs. Gives major attention to work which has been carried out at the University of Florida. 14 pages.

4. "The Florida Educational Research and Development Program: First Annual Report," February 24, 1970. A document prepared by the Commissioner of Education for submission to the State Board of Education and Florida Legislature. The Report is based upon recommendations of the Board of Governors. 55 pages.

5. "The Unity and Theoretical Underpinnings of the Florida Educational Research and Development Program," June 1, 1970. A statement issued by the Board of Governors. 3 pages.

6. Lewis A. Rhodes, "The Management of the Florida Educational Research and Development Program," June 19, 1970. This is a draft for discussion purposes prepared by an outside consultant. It discusses the Research and Development Program from a "student centered" perspective. 36 pages.

7. William H. Taylor, Jr., "Cost Analysis and Management Information System Structure in Florida Public Schools," June 19, 1970. The paper describes the proposed development of a cost analysis-management information system that would be congruent with student evaluation and measurement instruments. 19 pages.

8. K. Fred Daniel, "Moving Toward Accountability: Florida's Program," June 30, 1970. A paper presented at the conference on "State Leadership Toward Educational Accountability" held in Stone Mountain, Georgia, June 30 through July 1, 1970. A revised version of this paper was published in Educational Technology Magazine, January, 1971.

9. K. Fred Daniel, "Organizing Educational Research and Development to Make Differences in Florida Education," July 13, 1970. This is a draft for discussion purposes. The paper proposes that Educational Research and Development be made an integral part of the Department of Education operations. 21 pages.

10. K. Fred Daniel, "Managing Education," July 21, 1970. This is a draft for discussion purposes. It sets forth rudimentary ideas about education and about management which are proposed as being applicable to all levels of educational management from the individual classroom to the statewide educational system. Appears in Florida Schools, January-February, 1971. 8 pages.

11. "Making Public Education Responsive to Changing Needs of Individuals and Society," August 11, 1970. This is a report prepared by an internal Department of Education task force charged with studying the role of the Department of Education in cost analysis, planning, and evaluation. 6 pages.

12. Shelley S. Boone, "Educational Research and Development in the Florida Department of Education," September 11, 1970. Remarks presented by the Director of the Division of Elementary and Secondary Education to the Board of Governors. 5 pages.

13. Floyd T. Christian, "Educational Research and Development in the Florida Department of Education," September 11, 1970. The Commissioner's remarks presented to the Board of Governors by Deputy Commissioner John Seay. 8 pages.

14. Carl W. Proehl, "Development of Florida's Vocational Education Program," September 11, 1970. Remarks presented by the Director of the Division of Vocational, Technical and Adult Education to the Board of Governors.

15. James T. Campbell, "Educational Research and Development Under the Associate Commissioner for Administration,"September 11, 1970. Remarks presented by the Associate Commissioner for Administration to the Board of Governors.

16. "Preliminary Report: Florida's Plan for Educational Assessment," September 30, 1970. A report prepared by the State Commissioner of Education for submission to the State Board of Education and the Chairmen of the House and Senate Education Committees pursuant to the requirements of Chapter 70-399, Laws of Florida. This legislation requires that the Commissioner of Education develop a plan for educational assessment and present this plan to the 1971 legislature. 6 pages.

17. "Progress Report: Florida's Plan for Educational Assessment," October 30, 1970. A progress report on the development of the State Assessment Program which is being developed pursuant to the requirements of Chapter 70-399, Laws of Florida. 4 pages.

18. "Alternative Plans for the Future of Florida Education," November 12, 1970. A draft of ideas for a project to study the consequences of alternative educational policies. 3 pages.

19. "Designing a State Educational Assessment Program to Serve Two Masters," December 15, 1970. A draft for discussion purposes dealing with the problem of reporting assessment information which is useful to both the public and professional educators. 6 pages.

20. Mary Ann Patalino and Gretchen Stangel, "Structure of Reading Skills," undated. This is a hierarchially arranged set of objectives for reading which was developed at the Center for the Study of Evaluation, UCLA. It is a prototype of the way which goals and objectives will be organized in other subject areas. 39 pages.

21. "Criterion-referenced Instruments and Procedures for Measuring Student Competencies," December, 1970. This is a description of criterion-referenced test items which is being appended to contracts for the development of such items. 3 pages.

APPENDIX D:

R & D PROJECTS NOW UNDERWAY

Each project being supported with the funds allocated to the Department of Education for educational research and development is described below. The purpose of this appendix is to provide greater detail on the R & D Program which is described in the body of this report; to account for R & D funds; and to fulfill Section 229.561(2)(b)12, Florida Statutes. This section of the statutes requires the Board of Governors to submit "a report listing all projects sponsored under the Educational Research and Development Program . . . pointing out significant and new information, practices, or other benefits which have been accomplished due to the program." At the present time, the Board can only describe anticipated benefits, since the projects have only recently begun.

The projects are organized according to the design for the Florida R & D Program which is discussed in Chapters II and III. That is, projects for developing assessment techniques are presented in one group and projects for developing alternative policies and practices are presented as a second group. The third group consists of projects for program development and management and completes the summation of funds appropriated for R & D. The outline for presenting projects is as follows:

1.0 Projects for developing techniques for assessing educational results, utilization of resources and costs.

- 1.1 Results
- 1.2 Utilization of Resources
- 1.3 Costs
- 1.4 Combination Projects

2.0 Projects to develop and demonstrate alternative policies and practices.

- 2.1 Policies
- 2.2 Practices - contracts for development or dissemination
- 2.3 Teacher Education

3.0 Projects for program development and management.

- 3.1 Advisory Council
- 3.2 Board of Governors
- 3.3 Internal operations
- 3.4 External support

The cost of each project is broken down into contracted and non-contracted expenditures from the R & D allocation. Non-contracted expenditures consist of funds used for in-house development. These funds have been used to bring together leaders in particular subject areas for the purpose of identifying goals consistent with State goals, specifying products to be developed under R & D contracts, and for providing related services. There are two exceptions to this use of non-contracted expenditures; notably 1.1.07--development activities in music, and 1.3.01--development of a cost determination system. In these two projects the actual development is taking place in the Department. Costs which are being absorbed in the regular operating budgets of the Department of Education or other agencies are not included in this Appendix.

1.0 Project for developing techniques for assessing educational results, utilization of resources, and costs.

1.1 Results

Each of the following projects for developing criterion-referenced assessment techniques will follow basically the same design. The facet of the curriculum represented in each project will be broken down into its fundamental areas of knowledge or skills. Each of those knowledge or skill areas will be divided into its logical sub-areas. In some cases, the sub-areas will be sub-divided further. Finally, specific objectives will be identified for each of the sub-areas. These objectives will be arranged in a catalog which will include, as nearly as practicable, all objectives which might be used in any program within that part of the curriculum. It should be recognized that no single program will be expected to include all the objectives.

Each of the objectives in the catalog will have corresponding test items to measure those objectives. The test items will be criterion-referenced and can be used to determine whether the student does or does not possess the skills or knowledge specified in the objective. The individual projects described represent developmental activities designed to provide the instruments and techniques for assessment procedures which can be used by teachers to manage instruction and by district or state personnel to make decisions regarding the management of the school system.

1.1.01 Criterion-referenced measures and procedures in Art

Contract: Palm Beach County	$15,063.00
Non-Contracted	1,941.00

The catalog of objectives will contain objectives in Art for grades K-12. Test items will be written for objectives in grades 9-12.

1.1.02 Criterion-referenced measures and procedures in Communications Skills

Contract: Broward County	$80,000.00

The catalog of objectives will contain objectives in communication skills in grades 9-12. Test items will be written for objectives representing skills in writing and speaking.

1.1.03 Criterion-referenced measures and procedures in Employability Skills
Contract: Florida A & M University (Estimated) $32,000.00
The catalog of objectives will contain objectives for employability skills in vocational education. Test items will be written for the objectives. The details of this project were not finalized at the time of this report.

1.1.04 Criterion-referenced measures and procedures in Horticulture
Contract: University of Florida $32,702.00
Non-Contracted 784.00
The catalog of goals will represent goals in horticulture for pre-vocational or vocational education programs. The catalog will include performance objectives in ornamental horticulture and test items will be written for the objectives related to initial employability in ornamental horticulture.

1.1.05 Criterion-referenced measures and procedures in Human Relations Skills
Contract: Sarasota County (Estimated) $15,000.00
Non-Contracted 1,651.00
The catalog will contain objectives in human relations skills at a selected level. Test items will be written for the objectives. Final product specifications were not complete at the time of this report.

1.1.06 Criterion-referenced measures and procedures in Mathematics
Contract: Dade County $80,000.00
Non-Contracted 3,870.00
The catalog of objectives will contain objectives in mathematics, K-2. Test items will be written for those objectives.

1.1.07 Identification of objectives in Music
Non-Contracted $ 8,090.00
The music consultant in the Department of Education has employed graduate students for the purpose of organizing, selecting and revising objectives for music in grades K-12. It is not expected that a contract will be negotiated for any further activity during 1971.

1.1.08 Criterion-referenced measures and procedures in Secretarial Skills
Contract: University of Florida $31,526.00
Non-Contracted 814.00
The catalog of objectives will contain terminal objectives in typewriting skills in business education. Test items will be written for those objectives.

1.1.09 Criterion-referenced measures and procedures in Social Studies
Contract: Florida State University $35,000.00
Non-Contracted 2,074.00

The catalog of objectives will include objectives for the concept "political systems" at the high school level. At least one test item will be developed for each objective.

1.1.10 Criterion-referenced measures and procedures in Science
Contract: (not yet determined) (Estimated) $90,000.00
The catalog of objectives will contain objectives for science at the middle school level. Test items will be written for the objectives. The Contract for this production had not been finalized at the time of this report.

1.1.11 Assessing Reading Skills
Contract: Center for the Study of Evaluation, UCLA $28,000.00
Non-Contracted 1,235.00
Instruments and procedures for assessing reading skills of students at grades 2, 4, 7 and 10 in each school district in Florida will be produced. This contract will provide the support needed to adapt a newly developed assessment system to the needs of Florida. It does not cover the actual development costs.

1.2 Utilization of Resources

1.2.01 System for Resource Assessment and Utilization for Instructional Improvement
Contract: Florida State University $74,740.00
A system will be developed for analyzing the productivity of educational resources--personnel (including pupils) time, facilities, and media. The utilization of educational resources is said to be more productive when (a) costs are reduced without an accompanying loss in pupil achievement (i.e., attainment of specified objectives), (b) pupil achievement is increased without increasing costs, or (c) both pupil achievement and costs increase but the increase in achievement is judged by decision-makers to warrant the increase in costs. When developed, the system will be suitable for use in schools employing innovative patterns of resource utilization (such as differentiated staffing) and will also be suitable for use in schools employing traditional patterns of resource utilization.

1.3 Costs

1.3.01 Cost-Determination System
Non-Contracted $18,550.00
The development of a cost-determination system will make possible the forecasting of costs of various plans for education involving changes in the use of personnel, facilities, duration of efforts, and involvement of community resources. The Bureau of School Finance is assigned the initial responsibility for developing, testing, and implementing improved costs analysis techniques for use in elementary and secondary

school programs including programs in area vocational schools operated by school boards. These cost analysis techniques will be, to the extent possible, compatible with techniques used in the junior colleges and universities. The Bureau will work closely with the Office of the Department Comptroller and with the other three Divisions of the Department in designing cost analysis techniques. The work done in this project will be a part of the comprehensive planning which is being carried out in the House Special Study Committee. Although only $18,550 has been allocated toward this effort, additional monies from ESEA Title V and other funds are contributing to the efforts under the direction of Florida Statutes, Section 229.551 (3) and (4) and 229.811 (1), (c), and (d). The amount allocated to the Bureau of Finance from the R & D Program will be used to employ graduate assistants to do the routine work necessary to relieve DOE specialists to work on the cost analysis program.

1.4 Combination Projects

2.0 Projects to develop and demonstrate alternative policies and practices

2.1 Policies

2.1.01 Exploring Consequences to Alternative Educational Policies
Contract (Estimated) $ 35,000.00
Non-Contracted 193.00
The capability of the Department of Education for conducting formal analyses of consequences which could be anticipated from alternative educational policies will be strengthened. It is anticipated that such analyses will involve the participation of councils which advise the Department of Education such as the Vocational Educational Advisory Council, Public School Council, Junior Colleges Advisory Council, and State Council on Post-High School Education. Final details of the contract were not specified at the time of this report.

2.2 Practices

2.2.01 Hackett Reading System
Contract: Motivation Systems (R & D Portion) $135,000.00
Contract: Florida State University 75,000.00
A contract to test the feasibility of using the Hackett Reading Systems in Florida public schools has been negotiated with Motivation Systems, Inc. The project will be designed to determine the feasibility of using the system for each of two functions: (a) to enable individual classroom teachers to manage pupil learning activities in reading so that the maximum achievement accrues; and (b) to provide an assessment system which will facilitate communication between classroom teachers and other segments of society relative to pupil progress in reading. The total amount of the contract is $475,000. This project is a

cooperative effort between adult education, migrant education and the research and development program.

A second contract has been negotiated with Florida State University to audit the results of the feasibility study.

2.2.02 Design Training Program for Community School Directors
Contract: Florida Atlantic University $ 42,082.00
A contract has been negotiated with Florida Atlantic University for the designing of training procedures and the selection of materials for the training of community school directors. A major focus of the training program development will be the production of a series of educational experiences which will efficiently and effectively assist in-service and preservice directors with achieving the goals of community education.

2.2.03 Reviewing Performance Contracting
Performance Contracting arrangements in Florida and elsewhere will be reviewed. Recommendations for making effective use of performance contracting as a strategy to improve Florida education will be proposed. It is anticipated that no funds from the R & D allocation will be required for this project.

2.2.04 Individualized Instruction Model
Contract: Florida State University (Estimated) $100,000.00
This project will be conducted in cooperation with a school district to develop and demonstrate an optimized system of individualized elementary instruction for a "model" public school. The project will take advantage of the most well-developed and promising materials, techniques, and procedures available throughout the nation. It will be designed as a demonstration for Florida schools and Florida educators, and will include elements which can be readily disseminated to other schools throughout the State. It is expected that the project will span a three-year period and will receive financial support from various sources. The final specifications for this project were not complete at the time of this report.

2.2.05 Student Participation in Instruction
Planning Contract: Florida Education Association $ 3,000.00
Contract: Florida Education Association (Estimated) 20,500.00
Techniques teachers use to involve students in instruction will be identified and training materials will be designed for instructing teachers and students in using selected techniques. The planning contract for this project is complete; however, the production contract had not been finalized at the time of this report.

2.2.06 Extended School Year

2.3 Teacher Education
Contracts: (contractor not yet determined) (Estimated) $134,200.00
A comprehensive plan for strengthening the training, evaluation and licensure of educational personnel has been developed. It will be supported with Educational Research and Development funds, supplemented with funds from other sources. The plan includes the following four components: (a) development of a comprehensive catalog of competencies for teachers and administrators, (b) research on the relationship between teaching competencies and pupil achievement, (c) identification or production of training materials, and (d) assistance to institutions and school districts with staff development for teacher training personnel.

3.0 Projects for program development and management

3.1 Advisory Council

3.1.01 Amount $11,740.00
The members of the Advisory Council are appointed annually by the Commissioner of Education. The 24 members represent professional educators, lay people interested in education, and students. There will be five meetings of the Advisory Council during the 1971 year at an approximate cost of $2,348 per meeting for travel and per diem. The total cost of the Advisory Council meetings this year will be approximately $11,740.

3.2 Board of Governors

3.2.01 Amount $27,303.00
The Board of Governors consists of eight nationally recognized leaders in education. Funds are budgeted for seven meetings. Board members receive expenses plus an honorarium for each meeting.

3.3 Internal Operation

3.3.01 Postage and Multilithing
Amount $ 4,300.00
$4,300 has been allocated for postage and multilithing directly related to the operation of the Research and Development Program.

3.3.02 Costs for salaries, department travel, supplies, building rental, office equipment, etc., are supported from the regular operational budget of the Division of Elementary and Secondary Education.

3.4 External Support

3.4.01 Dissemination of Information
Contract: Franceschi Advertising, Inc. $ 2,500.00

Franceschi Advertising, Inc., has been employed to produce two folders to describe Florida's R & D Program and to produce a slide-tape presentation which will be used to acquaint the general public with the program.

3.4.02 Determine Readability Level
Contract: Professional Reading Techniques, Inc. $ 1,250.00
A contract has been negotiated to determine readability level of 100 state adopted textbooks. The texts have been identified by curriculum consultants in the Department. Additional costs for this service will be from other sources within the Department. The total contract is $2,650.00.

3.4.03 Technical Assistance in Development of Criterion-Referenced Test Exercises
Contract: Florida Board of Regents $54,892.00
Technical assistance for the development of criterion-referenced measures and procedures will be supported through Florida State University, Florida A & M University, University of South Florida, and Florida Atlantic University. This assistance and coordination will be offered to all contractors producing assessment instruments and procedures for the R & D Program. This measure was instigated to insure quality and compatibility among products.